

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT:

- (A) NAME: INSTITUT PASTEUR
- (B) STREET: 28 RUE DU DOCTEUR ROUX
- (C) CITY: PARIS CEDEX 15
- (E) COUNTRY: FRANCE
- (F) POSTAL CODE (ZIP): 75724

(ii) TITLE OF INVENTION: A METHOD FOR ISOLATING A POLYNUCLEOTIDE OF INTEREST FROM THE GENOME OF A MYCOBACTERIUM USING A BAC-BASED DNA LIBRARY. APPLICATION TO THE DETECTION OF MYCOBACTERIA.

(iii) NUMBER OF SEQUENCES: 5

(iv) COMPUTER READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk
- (B) COMPUTER: IBM PC compatible
- (C) OPERATING SYSTEM: PC-DOS/MS-DOS
- (D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)

(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12732 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

ACCTGCGCTT GCAGAGATCA AATAGGGCGC ATGGGTCAGC ATAGTACAGG TCGTCGCGCA	60
TCTTTGATGC ATCGGAATAA GATGTCAGGC AATTAAAAGA GAAGCCACGG CGACTCGCGG	120
CATTTCAGCAT GTCGAGCGTC GCTTCGATGT GAGCGCACCA TTCCGTGTCC AACGATTTCA	180
GACGAACATT GAATATTCCA CTCGCGACGC TATAGTCCGC CTCCCGATCT ATGCGCGCCC	240
CGCAGATGAA GTCTGCGTTC GCCCGACCTT CGAAACGTAG TGCGGCCGCG CGCACCATTT	300
CGGGGGAGAC GTCGATGCCG GTGTAATCAG TTTTGAAGCC ACGCGCATCT AGGTAGTCCA	360
GTAGAGCCCC ATAGCCACAG CCTAGATCGT TGATCGAAAA TGGGTCCGCC GCATTGACAA	420
TGCGCACCAG CTGGTCAAAG CGCAACGCCT GCCCGGCTTC GCCGTTCCAA TCGACGCCGC	480
GCGGGTGCCG TGTGCTTCGA GTTTCGATGC GTAGTAACGG GCCACGTCAG CGAGCATGGT	540

CGTTGCGTCT	TCCGCCATGA	AGCTGCCTCA	CGATTTGTGT	GTGTGGGCGT	CGGTGCGTGG	600
GTCCGAGACT	ATACCTTCAA	CAGTTGCATG	CCGAGGCTGC	GGCGGGCAAT	GACCCAAAAA	660
CCC GCCGCA	CGGTTCCGCG	AGCAAGGAAG	CGTGGAGACG	ATAGATAATT	TCACTGGCGA	720
CAGTACCTCA	AATAGTCCGG	AGCCTCGGCT	CCGACGTTAA	AGAGCAGATC	CAGAATCGAC	780
ACGGCGGGCT	CGAACCCCTCC	CCACAATTGC	TTATAATCGC	GGTAGCCGTC	ATAATCGAAC	840
CAAGTTACCC	GGATGCTAAG	TTCGTGGAAC	ACGCGCTCAT	CGACATACGA	ACGGGCTGAG	900
GGGCCAGAGA	CATATTCGGT	CGCTGCGGCC	TGTTGGCAGA	GGTTGGCCAG	TCTCTCGGTC	960
TTGCCGTCGG	CTAATTCGTA	GTCCCACGAA	TTTGCCAGTC	GCGTGCTGAT	ACCGAGATAA	1020
CTGCAAATCG	CATTCAATAG	ACGCCTGTTG	AGTAAGGAAA	GATTCGTGTG	CTGTTCTTCG	1080
AGGTAAATCG	GCGCGAGCCA	GTCAGCGATC	TCCGCAAAAT	GAGCGGCCGC	GCTGTAGTTG	1140
AATTCTAGTG	CCCGCCAGTG	CGCTTTCGCC	CAATCGGTGC	CGTCGATCAG	CGTCTCACGT	1200
ATCTTTTGAT	GGAAACGTCC	CTTCACCTGG	ACGGGAACAG	TTATCCACTG	TAACCCCTGG	1260
CTCGTTTTGA	TCCGATTTCT	GTTTCGCCAA	TCACGCTTGG	TATATTGCAT	GTCATCATAG	1320
ATGATGAATT	CATCGACGAA	TGCAATCAGG	TCAAAATATC	CTCGCCAAGG	TATGTAATTT	1380
GATTGAACAA	TCGCGACTTT	CTTCAACGCG	GTGTCTCCAA	TTTAGAATAA	CAAATACGTC	1440
GCGCCCGCA	CAGCTCCGCT	GGAGCGAGTT	CAAGCGATTG	TGCGACATAT	TCAATATGGT	1500
GCTCGGGAAG	GCCAGGATGG	GCCGCGACCC	GGGGCGTCCG	GTGCGCGATG	AACGTGCGAT	1560
CGTCTCCTGT	GAGATAATTG	CATCCGATCA	TATAGGGCTG	GCTGCGGCTA	GGTTGCTGGC	1620
AAAAAGATAT	CGCGGCCGAT	CCGTTTCTGG	TTTTGTCTTG	ATGATCAAAT	CCGCTTCCGT	1680
TCACGAGATC	GATTCTTGGT	CTTCCCCCAG	CGTCGCGATG	TCGATAGGTG	TCGCGCTTTG	1740
TTCGTACCCG	CCTACGCGG	CGGCGAGAAC	CTCGCCACCG	AATCGGGATT	GGGGGGAGGA	1800
TACCACTCGG	TCGAGGCCCG	TCACCGGCCT	TCTAGCGGGT	TGACCATCAG	TGTTTGAGG	1860
GCCCTATCCC	GGTATGGCGC	ACCACGGGAT	CGGCAGCGTT	CCGGTTGCTG	GCGTGGTACC	1920
TCGTTGTGGC	GCCGTGGTCC	ATGTCGATTG	AGTGCCTGGA	TCAGTGTAAG	CCGTTGCGCG	1980
CCATGTTCTG	TAGGCACTGG	TTCGGGTTGT	GGTTAGGCTG	CACGGTTGGC	AGGTTACCAA	2040
CCACTGAGCC	CCTGGGCGGA	TGTGAGCTCG	GACTCCGCCT	ATGGGGTGTA	ATTTTGGCAG	2100
ATTGGGCCGG	GTCCCCGTGG	TGAGGACTCC	TCAACCGGAT	TGGGTAAGCA	TGAGGTGGTG	2160
CTGGCAGCGG	TGTCCTGGTC	GCTCTCCCGA	GTAGGCCCGT	TGTGACTGTC	ATGTGGGCGA	2220

GCGGGTTTGC GCGCGTAGGA GACGATGATT ACTACGCACG TGACCAACCA CAAGAACGGT 2280  
 GCCCATGTCA CCGTGGTGAA AACGAGTGGC GTGGTACCGA CTACCCCTTT GGCTCCCAGC 2340  
 TGTCCATAGA GCGGCACGTA GAACGGCTGG CCCGGGACCG CGACGTTGAC GATGCTCAGC 2400  
 GCCACGGCCA AACTCACGCA GACGCCGACC GCGCGGCGGC GGTCTCCATG GGCTGCGAGT 2460  
 TGGTCGAATA TCCCAGCACC AGGAGGCCCG TTGGGGTCTC GGGCTACCAG TGCAGCGATT 2520  
 GGCAAGACGA AAACGAGATA GTAGAAGGCG ACGTCCGCGG GGGAGAAGGT GGCGGTGGCG 2580  
 AGCAACACAA TCCCCACCAT GACAGGCGGG ATACGGCGTC CGAGCGCCAG CACGGCGACC 2640  
 ACGACTATGA CTAGGACAGC AAACCCGATC TCGGTTGCGG GACCAGTGAG GAAACCTCT 2700  
 GGGATCTTGC CCGATTGATA GTTCTTGATG CTATCGGGGA TCAGCAGGAG TGCCTTGCCA 2760  
 AAGGACACGT TCCGCGGGTC TCGAAGCCCT CCGAACGAAC TATTGAACTT GATGATGCCG 2820  
 TGGATCGACT GTGCGATCGT CCCCGGGAAG CCTCGTGGCC ACAACAGAAA GGCTGCGATA 2880  
 TTGGACACCA CCACGCCGGT GATCCCGATA CCAGCCCACC GCCATTGTCTG AGCCGCCAAC 2940  
 AACACCACGC CGAGAACGAC GAACTGCGGC TTTACCAGGA CGGCCAAGAT CACCGTGATG 3000  
 GTGGCGAGGC CCCACCGCTG TCGGGACAAC GCCACGAAGT AAGCCAGCGC GATCGGTACC 3060  
 ACGAACCTTG TCGAGTTGCC TCGATCGATG ACCCCCCACG CCGGGATGGC CGCGGCGCCC 3120  
 AGTGTCACGA AGATGACCAC TCGCTCCAGA CCACGTGCCC CCCGGGCCGC CCAGATGGCG 3180  
 GGAGATATGA CCGCCATCGT TAGGGCGACC AGGTAACAGA TCAGCCCCAA GCGCGGCGCA 3240  
 CCCAGCCAAT GGCTGGGTAG TCCGAAAATC GCATACGGTA TGCGGGCGGG GGCCCATGCA 3300  
 GCAACCGCGG TCGGCTGGTA ATCGGCGGGT AGCGAGATCA GGTAGTCCGC GGGATTGGGT 3360  
 TGAATCCCGG CGGCGGCGAC CATGGCGTAG TCGCTGAAGC AGTGCCGACC GATATTCTATG 3420  
 CCCCAATCAA GCCAACAGTC CCCAGGGACT ACCAAAAGAG TGGAAAAGAC GTCGACCGCG 3480  
 TACCACTGAC TGAGGGCGTA CGCCGTCGCC GCCGAAATCA CCGACGCCAG CAGGATGGTG 3540  
 CCGAGCATGA GGGTGCGCTC GGATTGGGAG CCGATCGCCC AGAGCCGCTC CCGGCTCGCG 3600  
 GTCACGGCAC CGCGCAACAC CTCCGGGGGT CGTTTCATCT GGATTCTCCT CGGTTCTGCG 3660  
 CGAAACGGTA GCAGAGCGCC ATGGTTGCCA ACGCGGTGCG CGGGCAGTCT AGACCGGATC 3720  
 TTCTCTGTGG CAACCGACAA CAGGACGTCG TTGCCGAAAG GGCCTGGGC ACCGACATCT 3780  
 AGGATGAACC CACAGCCACG CCCCACGTT ATGCCATGGC GAAGAGCGAC CGGCAGGAGC 3840  
 GGGAAACCCAG TGAAGCGAGC GCTCATCACC GGAATCACAG GACCGGACGG CTCGTATCTC 3900  
 GCTAAGCTCC CGCTGAAGGG ATATGTGGCC GCTGGTAGCC CGGCCGAGGT CTATTTCTGC 3960

0962476-1300

TGGGCGACAC GGAATTATCG CGAATTGTAT GGGTTGCTCG CGGTCAACAG CATCTGGTTC 4020  
AATCACGAAT CACCGCGTCA CGGCGAGACA TTCATGACTC GTAATCCTGC ACCATATCGC 4080  
GGTCGGCAAC GAGGCGCTGA TCGATGCGCA GACGCTGATG CGCCGGCCCA CCCGGATAGG 4140  
TATCAGTATT GGGGCGTTCC GGCCAGCGTA CGAGGCGTGA TCGACCGCGC AATGGGTGTT 4200  
TGCGTTGAGT AATAATCTGA ACCGTGTGAA CGCATGCATG GATGGATTCC TTGCCCCTAT 4260  
CCGCTCACAT GTTGATGCGC ACGCGCCAGA ATTGCGTTCA CTGTTCGATA CGATGGCGGC 4320  
CGAGGCCCGA TTTGCACGCG ACTGGCTGTC CGAGGACCTC GCGCGGTTGC CTGTGCGTGC 4380  
AGCATTGCTG GAAGTGGGCG GGGGGGTACT TCTGCTCAGC TGTCAACTGG CGGCGGAGGG 4440  
ATTTGACATC ACCGCCATCG AGCCGACGGG TGAAGGTTTT GGCAAGTTCA GACAGCTTGG 4500  
CGACATCGTG CTGGAATTGG CTGCAGCACG ACCCACCATC GCGCCATGCA AGGCGGAAGA 4560  
CTTTATTTCC GAGAAGCGGT TCGACTTCGC CTTCTCGCTG AATGTGATGG AGCACATCGA 4620  
CCTTCCGGAT GAGGCAGTCA GCGGGGTATC GGAAGTGCTG AAACCGGGGG CCAGTTACCA 4680  
CTTCCTGTGC CCGAATTACG TATTCCCGTA CGAACCGCAT TTCAATATCC CAACATTCTT 4740  
CACCAAAGAG CTGACATGCC GGGTGATGCG ACATCGCATC GAGGGCAATA CGGGCATGGA 4800  
TGACCCGAAG GGAGTCTGGC GTTCGCTCAA CTGGATTACG GTTCCCAAGG TGAAACGCTT 4860  
TGCGGCGAAG GATGCGACGC TGACCTTGCG CTTCCACCGT GCAATGTTGG TATGGATGCT 4920  
GGAACGCGCG CTGACGGATA AGGAATTCGC TGGTCGCCGG GCACAATGGA TGGTCGCTGC 4980  
TATTCGCTCG GCGGTGAAAT TGCGTGTGCA TCATCTGGCA GGCTATGTTC CCGCTACGCT 5040  
GCAGCCCATC ATGGATGTGC GGCTAACGAA GAGGTAATGA CATGGCGCAA GCGACATCGG 5100  
GCATTGCGCG GGCACTTTCG CAACCTGCTG TGTATGAGGC GTATCAGCGG ATTGCGGGCG 5160  
CTAAAAGCGG GCTTGCGTGG ATCACAACCG ACCCCATCCA GTCGTTGCCA GGCATGCGTA 5220  
CTCTCGACCT CGGTTGCTGG CCAGCGGTGA TACACAGCTC CCCGCCAGTG GACGTGACAT 5280  
GTACGAGAGA CGGCATGAGC GCGGAATGTG CGACCGTGCC GTCGAGATGA CCGACGTCGG 5340  
CGCTACGGCA GCCCCACCG GACCTATCGC GCGGGGCAGC GTCGCTCGGG TCGGCGCGGC 5400  
GACCGCGTTG GCCGTTGCCT GCGTCTACAC GGTCTATCTAT CTGGCGGCCC GCGACCTACC 5460  
CCCGGCTTGT TTTTCGATAT TCGCGGTGTT TTGGGGGGCG CTCGGCATTG CCACCGGCGC 5520  
CACCCACGGC CTCCTGCAAG AAACGACCCG CGAGGTCCGC TGGGTGCGCT CCACCCAAAT 5580  
AGTTGCGGGC CATCGTACCC ATCCGCTGCG GGTGGCCGGG ATGATTGGCA CCGTCGCGGC 5640

0967476-13000

CGTCGTAATT	GCGGGTAGCT	CACCGCTGTG	GAGCCGACAG	CTATTCGTCTG	AGGGGCGCTG	5700
GCTGTCCGTG	GGGCTACTCA	GCGTTGGGGT	GGCCGGGTTC	TGCGCGCAGG	CGACCCTGCT	5760
GGGCGCGCTG	GCCGGCGCTG	ACCGGTGGAC	ACAGTACGGG	TCACTGATGG	TGACCGACGC	5820
GGTCATCCGG	TTGGCGGTCTG	CCGCGGCAGC	GGTTGTGATC	GGATGGGGTC	TGGCCGGGTA	5880
CTTGTGGGCC	GCCACCGCGG	GAGCGGTGGC	GTGGCTGCTC	ATGCTGATGG	CCTCGCCCAC	5940
CGCGCGCAGC	GCGGCCAGCC	TGCTGACGCC	CGGGGGAATC	GCCACGTTCG	TGCGCGGTGC	6000
CGCTCATTCG	ATAACCGCCG	CGGGTGCCAG	CGCGATTCTG	GTAATGGGTT	TCCCAGTGTT	6060
GCTCAAAGTG	ACCTCCGACC	AGTTAGGGGC	AAAGGGCGGA	GCGGTCATCC	TGGCTGTGAC	6120
CTTGACGCGT	GCGCCGCTTC	TGGTCCCCT	GAGCGCGATG	CAAGGCAACC	TGATCGCGCA	6180
TTTCGTCTGAC	CGGCGCACCC	AACGGCTTCG	GGCGCTGATC	GCACCGGCGC	TGGTCGTCTGG	6240
CGGCATCGGT	GCGGTCTGGGA	TGTTGGCCGC	AGGGCTTACC	GGTCCCTGGT	TGCTGCGTGT	6300
TGGATTCTGGC	CCCGACTACC	AAACTGGCGG	GGCGTTGCTG	GCCTGGTTGA	CGGCAGCGGC	6360
GGTAGCTATC	GCCATGCTGA	CGCTGACCGG	CGCCGCCGCG	GTCGCGGCCG	CACTGCACCG	6420
GGCGTATTTG	CTGGGCTGGG	TCAGCGCGAC	GGTGGCGTCG	ACGCTGTTGC	TGCTGCTGCC	6480
GATGCCGCTG	GAGACGCGCA	CCGTGATCGC	GCTGTTGTTT	GGTCCAACGG	TGGGAATCGC	6540
CATCCATGTG	GCCGCGTTGG	CGCGGCGACC	CGACTGATTT	GTGCCCCAGG	TCGACAAATC	6600
ACGCCGTCTC	GTCAGTGAGC	ACTCCGTCCT	CGGGTCCGAT	CCTTCAGGA	GACGTTGCAA	6660
CCTGATTTGG	CTCAAATTGG	TGCGCACCAG	GGGTCTGGGCA	CATCGTAGGG	TCGCAACAGT	6720
CACATGTGTC	ACTGCACCGG	GCGACACCCG	ATGTCCCGGC	TCTCAGCGAC	AGCTGTCTGA	6780
CCTGTGGTTT	TGTTCCCAAG	TTGGTCGTGG	CTGTGCGGGA	TTGGAGGTGG	CGTGGGGGTC	6840
GCGTCGTATG	GATTCTCTCT	CTCGGTTCCG	CGCGAAACGG	CCGCAGGCGC	AATGGTCACC	6900
AACTTGGCCG	CGGTGGAGTC	TAGCCTCACA	TTTTCTTGGT	CGCCCCGAC	AACCAGGAGG	6960
TCGCTGCAGA	ACGGGCGTTC	CCTACCCACA	TCTACTATGA	AGCGACAGCG	GCGCCCCGCT	7020
GTGATGGCTG	AGCATGACCG	ACAGAGGCGG	GAAGACAGTG	AAGCGAGCGC	TCATCACCCG	7080
AATCACCGGC	CAGGACGGCT	CGTATCTCGC	CGAACTGCTG	CTGGCCAAGG	GGTATGAGGT	7140
TCACGGGCTC	ATCCGGCGCG	CTTCGACGTT	CAACACCTCG	CGGATCGATC	ACCTCTACGT	7200
CGACCCGCAC	CAACCGGGCG	CGCGGCTGTT	TCTGCACTAT	GGTGACCTGA	TCGACGGAAC	7260
CCGTTTGGTG	ACCCTGCTGA	GCACCATCGA	ACCCGACGAG	GTGTACAACC	TGGCGGCGCA	7320
GTCACACGTG	CGGGTGAGCT	TCGACGAACC	CGTGACACAC	GGTGACACCA	CCGGCATGGG	7380

ATCCATGCGA	CTGCTGGAAG	CCGTTCCGGCT	CTCTCGGGTG	CACTGCCGCT	TCTATCAGGC	7440
GTCCCTCGTCG	GAGATGTTTCG	GCGCCTCGCC	GCCACCGCAG	AACGAGCTGA	CGCCGTTCTA	7500
CCC CGGGTCA	CCGTATGGCG	CCGCCAAGGT	CTATTCGTAC	TGGGCGACCC	GCAATTATCG	7560
CGAAGCGTAC	GGATTGTTTCG	CCGTTAACGG	CATCTTGTTT	AATCACGAAT	CACCGCGGCG	7620
CGGTGAGACG	TTCGTGACCC	GAAAGATCAC	CAGGGCCGTG	GCACGCATCA	AGGCCGGTAT	7680
CCAGTCCGAG	GTCTATATGG	GCAATCTGGA	TGCGGTCCGC	GACTGGGGGT	ACGCGCCCGA	7740
ATACGTGCGAA	GGCATGTGGC	GGATGCTGCA	GACCGACGAG	CCCGACGACT	TCGTTTTTGGC	7800
GACCGGGGCGC	GGTTTCACCG	TGCGTGAGTT	CGCGCGGGCC	GCGTTTCGAGC	ATGCCGGTTT	7860
GGACTGGCAG	CAGTACGTGA	AATTCGACCA	ACGCTATCTG	CGGCCCACCG	AGGTGGATTC	7920
GCTGATCGGC	GACGCGACCA	AGGCTGCCGA	ATTGCTGGGC	TGGAGGGCTT	CGGTGCACAC	7980
TGACGAGTTG	GCTCGGATCA	TGGTCGACGC	GGACATGGCG	GCGCTGGAGT	GCGAAGGCAA	8040
GCCGTGGATC	GACAAGCCGA	TGATCGCCGG	CCGGACATGA	ACGCGCACAC	CTCGGTCGGC	8100
CCGCTTGACC	GCGCGGCCCCG	GGTCTACATC	GCCGGGCATC	GCGGCCTGGT	CGGGTCCGCG	8160
CTGCTACGCA	CGTTTGCGGG	CGCGGGGTTC	ACCAACCTGC	TGGTGCGGTC	ACGCGCCGAG	8220
CTTGATCTGA	CGGATCGGGC	CGCGACGTTC	GACTTCGTTC	TCGAGTCGAG	GCCGCAGGTC	8280
GTCATCGACG	CGGCGGCCCCG	GGTCGGCGGC	ATCCTGGCCA	ACGACACCTA	CCCGGCCGAT	8340
TTCCTGTCTGG	AAAACCTCCA	GATCCAGGTC	AACCTGCTGG	ATGCCGCCGT	GGCGGCGCGG	8400
GTGCCGCGGC	TGCTGTTTCT	GGGCTCGTCG	TGCATCTACC	CGAAACTCGC	CCCGCAGCCG	8460
ATCCCGGAGA	GCGCGCTGCT	CACCGGTCCG	TTGGAGCCGA	CCAACGACGC	GTACGCGATC	8520
GCCAAAATCG	CCGGCATCCT	TGCGGTCCAG	GCGGTGCGCC	GCCAACATGG	CCTGCCGTGG	8580
ATCTCGGCGA	TGCCCCACCA	CCTGTACGGG	CCAGGCGACA	ACTTTTCGCC	GTCCGGCTCG	8640
CATCTGCTGC	CGGCACTCAT	CCGCCGCTAT	GACGAGGCCA	AAGCCAGTGG	CGCGCCCAAC	8700
GTGACCAACT	GGGGCACCGG	CACGCCCCGA	CGGGAGTTGC	TGCACGTCGA	CGACCTGGCG	8760
AGCGCATGCC	TGTATCTGCT	GGAACATTTT	GACGGGCCGA	CCCATGTCAA	CGTGGGAACC	8820
GGCATCGACC	ACACCATCGG	CGAGATCGCC	GAGATGGTCG	CCTCGGCGGT	AGGCTATAGC	8880
GGCGAAACCC	GCTGGGATCC	AAGCAAACCG	GACGGAACAC	CACGCAAACT	GCTGGATGTT	8940
TCGGTGCTAC	GGGAGGCGGG	ATGGCGGCCT	TCGATCGCGC	TGCGCGACGG	CATCGAGGCG	9000
ACGGTGGCGT	GGTATCGCGA	GCACGCGGGA	ACGGTTCGGC	AATGAGGCTG	GCCCGTCGCG	9060

CTCGGAACAT	CTTGCGTCGC	AACGGCATCG	AGGTGTCGCG	CTACTTTGCC	GAACGGACT	9120
GGGAACGCAA	TTTCTTGCGC	CAACTGCAAT	CGCATCGGGT	CAGTGCCGTG	CTCGATGTGC	9180
GGGCCAATTC	GGGGCAGTAC	GCCAGGGGTC	TGCGCGGCGC	GGGCTTCGCG	GGCCGCATCG	9240
TCTCGTTCGA	GCCGCTGCCC	GGGCCCTTTG	CCGTCTTGCA	GCGCAGCGCC	TCCACGGACC	9300
CGTTGTGGGA	ATGCCGGCGC	TGTGCGCTGG	GCGATGTCGA	TGGAACCATC	TCGATCAACG	9360
TCGCCGGCAA	CGAGGGCGCC	AGCAGTTCCG	TCTTGCCGAT	GTTGAAACGA	CATCAGGACG	9420
CCTTTCCACC	AGCCAACTAC	GTGGGCGCCC	AACGGGTGCC	GATACATCGA	CTCGATTCCG	9480
TGGCTGCAGA	CGTTCTGCGG	CCCAACGATA	TTGCGTTCTT	GAAGATCGAC	GTTCAAGGAT	9540
TCGAGAAGCA	GGTGATCGCG	GGTGCGGATT	CAACGGTGCA	CGACCGATGC	GTCGGCATGC	9600
AGCTCGAGCT	GTCTTTCCAG	CCGTTGTACG	AGGGTGGCAT	GCTCATCCGC	GAGGCGCTCG	9660
ATCTCGTGGA	TTCGTTGGGC	TTTACGCTCT	CGGGATTGCA	ACCCGGTTTC	ACCGACCCCC	9720
GCAACGGTCG	AATGCTGCAG	GCCGATGGCA	TCTTCTTCCG	GGGCAGCGAT	TGACGCGCCG	9780
GCGCGTCAAT	CTATTTTCGAC	ATTCGCGTGA	AGACGTTTTT	CCAGAATCGA	CTGTTGTAGG	9840
CGTAGAACTC	CCGGCCGCGT	AGGTAGGCAT	GTGATATTTC	CCTTCCCCCG	AACGGGTAGC	9900
GGCGATGAAG	GTCGCCCATG	CGGCGCAGAT	CACCGAAGAC	CGCGCTTGGT	TCCCGGTGCG	9960
AGCCGACGCC	CGTGGTGTCG	AACTCGCACA	GCACACACCG	AATCGTGACC	GGCTCGCATA	10020
CCAGCGCGGC	CCGCAATATG	AATTCCTGGT	CGGCGGCGAT	CCCGAAATCA	AGGTTCGTAGC	10080
CACCGATCTT	GGCCACCAGC	GATGATCCGA	AGAACGATGC	TTGATGCGGA	ACAACCTGCT	10140
TGCCGGCCAG	GAATTTGCGC	AGGCTGAAAG	GTATCGGGCC	GCGCACCCGA	TCGAGCCCGA	10200
CGAGACGATC	CATCCCGAAG	CCCCACAATT	CGGACACCGG	TCCCTTGCCG	GATAGCGCCT	10260
CCACGGCCTG	GGCTACCACG	TCGGGCCCCG	AAAAACGATC	GGCGGAGTGC	AAGAACCACA	10320
ACAGATCACC	CGATGCGTGC	GCGATGCCCT	GGTTCATCGC	GTCGTACCGC	CCGCCGTCCG	10380
GCTCGGACTG	CCAATACGCG	AAGCCTGGTT	CACACCCGGA	CAGGTATGCC	ACCACGTCGT	10440
CGCCGCTGCC	ACCGTCGATT	ACGATGTGCT	CGATGCGTCC	CCGGTAGCGT	TGCGCCCGCA	10500
CACTTTTCAC	CGTGCGCTGC	AACCCGTCGA	GGTCGTTGAA	CGAGATCGTT	ATCACCGAGA	10560
CGGTCCGAGC	AGACGTCACC	GAGTTCCCCT	AGGTTGCTGG	CGGCGATTGT	GGATCACCGG	10620
GTCTTGATAC	CGATGAAGGT	GCCTCGAAGA	TTCGCCGCAT	AGGAACCTCC	GAGCAACGAC	10680
TCGGCGATGC	TTGGTTCCAA	GTTGTGCTAC	TCCTCCATCA	CCAGGTCGAC	GCCGACGTCT	10740
TTGATGGCCT	GAAGTAGGTG	CTCGCGTTGA	ATCCAGAATG	ACCGGCGATT	GTCCCGAGGAC	10800

GCCCCATTTTG	CGGTGTCGCG	CTGGCCAAAC	GAGCGGTTCGT	CGGAAAACTC	GGTAAACCAC	10860
CTACCGGGAA	GTCCCTCATG	TTCGGTGGGC	GCCGAGAGCA	TGAACTTCAC	CGGCGCCGGC	10920
CGCCGCAGCA	ACCGATCGGT	CAATTGTCGT	GCCGTCGTGG	GCAACCGGAG	CCATTTATCG	10980
CTCCGGTTGA	TGATCGAGAA	GTGCGTCTGG	AGAATCAGCA	GCTTGTTTCGT	TACCGACGAG	11040
AGGGTTTCCA	GGTATTGCTT	CGGATTCTCC	AGGTGGTAGA	AGAGGCCGCA	GCAGAAGACG	11100
GTATCGAAGA	GCCCGTGGTT	GGCGATGTTG	AGGGCGTTGT	CGTGGACGAA	CCGGAGATTC	11160
GGCAGGTTGG	TCTTCGATTT	GATGTAGTTG	CAGGCCGCCA	TGTTTCAGCTC	GCGAACCTCG	11220
ATCCCGAGGA	CCTGAAATCC	CATGCGCGCG	AACCCGACCG	CGTACCCGCC	TTCCAAGCAG	11280
CCGACATCGG	CCAGGCGTAG	GTGGCTCTTG	TCCCCGGGAA	AGACGGTTTC	CAGAATCCCG	11340
CGCGCCGAGA	TGAACCAGGA	CGATTCTGCT	AACGTGCGCG	AGGACTCCGG	TATCGTCAAG	11400
GTTCCGTCGT	CGAGGCGAAC	GTTGTGGGCG	GTGAATTGTA	CCGCGCCGGC	CGAATGTTCC	11460
TGTGCCATCA	CTTGGTTAGC	CCCTTCGGCT	GGTCCTGGGT	TTGTTCGACAT	GGTCAGGCTC	11520
GACAGCCGCG	TCGGAGCCGG	GAGGGCCACA	CATCCACGAG	CCCCCTGCGG	CTCGGCGTCG	11580
CGGCGGCGAG	CTTGCGCCAC	TGGGTCTTGA	GCCGCCGCGC	GGGTGTCGCC	CCGCGGTGCT	11640
GCAGCGCCAG	CATGGCGATC	CGGGGATGGC	GCGCGATGGT	TTCCTGCAGC	GCGGCGCGCC	11700
CCTCCGGGCC	TGGAACGTTG	GCGATCTGGC	GAAGGATCCA	GTCGGCCATG	ACGGCGATGA	11760
GCTCCTCGCG	CGCGGGGTCT	CCCGGGAACA	GGTCGAGCAT	CGCGTCAAAC	GTCGCCGCAT	11820
GCCCCGGACC	CTGCGTCAAC	CAGAACTTTG	GCGGGTCCAC	CACCTGGTTG	TGCCACATGC	11880
CTTGGGCGTG	GCGGCGATAC	ACGGCCATGG	TGTCGGGCAA	CATGGCGATG	TCGCCATGCA	11940
CCGCGTGCCG	GACGTGCAGA	TACCAGTCCA	GGGGCATGAC	GTCGGCAGGA	ATGTCGTTCGT	12000
AGCGCTCGAG	GCGACGGTAC	ACGGCCGAGT	TGGTCTGGAT	GAAGTTCATC	AAGATCAACG	12060
CATCCAGGCT	CAAGTTGCCC	CGCACCCGAA	CCGGGGGGAA	CTTCGAGTCC	TTGGCATGGC	12120
CGTCCTCCCA	TATCACTCGG	ACGGGATGGA	AGCACACCGT	CGTCTTGGGG	TGCCGGTCTGA	12180
GGAATGCGAC	CTGTTTGCTT	AGCTTCAGCG	GATCGATCCA	GTAGTCGTCC	GCCTCGCACA	12240
ACGCGACGTA	CTCGCCGCGA	GCGGCCGACA	GGGCGCCGGT	CAGGTTCCCA	TTGAGGCCGA	12300
GGTTTTTCGGT	CCTGAAGATC	GGCCGGAACA	CGTGCGGGTA	CCGCTCGGCG	TACTCACGGA	12360
TGATCGCCGG	GGTGGCATCG	GTCGACGCGT	CGTCGGCGAC	GATGATCTCC	ACCGGGAAGT	12420
CGGTTTGCTG	GTCGAGAAAG	CTGTCTGAAG	CCTGACGGGC	GTAGCCCGCC	TGGTTGTGAG	12480



TGGTCGAGAC	GATGCTCACC	TTGGGGCAAA	GCTGGGGACT	CACCGTCGGC	CCTTTTCCTG	12540
CGCGGCCGCA	AGGGTATTGC	GATGGCGAAC	GTGAATCGCC	TGTGCCCCGC	GGCCGTCGGC	12600
CGTCGTGGCC	TGGTGGTCGG	CGGACGTACG	GCACACGCTG	GCGAAGTATA	GCGAGGGTGC	12660
ACTGACGTTG	GGCTCGAACC	GCGTGGCGCG	CGGTGTGGGC	GCACCGTCTC	GAGTCGGTGC	12720
TGGTTGGCTC	GC					12732

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 289 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

ATACTCAAGC	TTGCCGCAAT	CGAAACCAAC	CTGTTTGTGC	CGCAAGAAAT	TACGCCGTGG	60
CCCGGCGCCG	ATCAAGAAAC	GCCCCGGCGC	GCGGCGGTGT	CGTCGTATGG	CATGACGGGC	120
ACCAATGTGC	ACGCCATTGT	CGAGCAGGCA	CCGGTGCCAG	CCCCCGAATC	CGGTGCACCA	180
GGCGACACCC	CGGCCACACC	CGGTATCGAC	GGCGCGCTGC	TGTTTCGCGCT	GTCGGCCAGC	240
TCGCAGGACG	CGCTGCGGCA	AACCGCCGCG	CGGCTGGCCG	ATTGGGTCT		289

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 278 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

TTGGCGGGTT	GGCCACACAC	CCGCCGGTGA	CGGCGACGAT	GCTGGGCTGG	TTGCGGCCCT	60
GCGCCACCGC	GGCTTG CATG	CTGGTTGGCT	GTCTTGGGAC	GATCCCGAAA	TAGTCCACGC	120
GGATCTGGTG	ATTTTGC GGG	CTACCCGCGA	TTACCCGCGG	CGGCTCGACG	AGTTTTTTGGC	180

Table 1. Demographic characteristics of the study population	
Age (years)	Mean (SD)
Male	55.2 (10.5)
Female	56.8 (11.2)
Marital status	
Married	78.5%
Single	21.5%
Education level	
High school or above	65.2%
Below high school	34.8%
Occupation	
White collar	45.1%
Blue collar	54.9%
Income (USD/month)	
< 1000	12.3%
1000-2000	35.7%
2000-3000	28.9%
> 3000	23.1%
Health insurance	
Yes	89.4%
No	10.6%
Comorbidities	
Hypertension	42.1%
Diabetes	18.5%
Cholesterol	31.2%
Smoking status	
Current smoker	15.3%
Former smoker	22.7%
Non-smoker	62.0%
Alcohol consumption	
Regular	8.9%
Occasional	25.4%
Never	65.7%

CTGGACTACC	CGCGTGGCCA	ATCTGCTGAA	CTCGCGGCCG	GTGGTGGCCT	GGAATGTCCA	240
CGCCGTTAC	CTACGTGACC	TTGATGGGAT	CCGGGGGT			278

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1280 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

CCGACCCAGA	CACTGACCGG	GCGACCGCTG	ATCGGCAACG	GCACCCCGG	GGCGGTCGGC	60
AGCGGGGCCA	CCGGGGCCCC	CGGTGGGTGG	CTGCTCGGCG	ACGGCGGGGC	CGGCGGGTCC	120
GGCGCGGCGG	GCTCGGGCGC	GCCCGGCGGG	GCGGGCGGGG	CTGCCGGGCT	GTGGGGTACC	180
GGCGGGGCCG	GCGGGATCGG	CGGAGCCAGC	ACCGTACTCG	GCGGCACCGG	CGGGGGAGGC	240
GGGGTCGGTG	GGCTGTGGGG	CGCCGGTGGG	GCCGGCGGGG	CCGGTGGAAC	CGGCCTTGTT	300
GGTGGCGACG	GCGGGGCCGG	TGGGGCCGGC	GGGACCGGCG	GA CTGCTGGC	CGGGCTGATC	360
GGTGCCGGCG	GAGGTCACGG	CGGGACCGGC	GGGCTCAGCA	CTAATGGCGA	CGGCGGGGTT	420
GGCGGGGCCG	GCGGGAATGC	CGGAATGCTC	GCCGGGCCGG	GCGGCGCCGG	CGGAGCCGGC	480
GGTGACGGCG	AAAACCTGGA	CACCGGTGGG	GACGGCGGGG	CCGGCGGTAG	CGCAGGGCTG	540
CTGTTCGGCA	GCGGCGGCGC	CGGCGGCGCC	GGCGGATTTG	GTTTCCTCGG	TGGGGACGGC	600
GGGGCCGGTG	GCAACGCCGG	GCTGCTGTTG	TCCAGCGGCG	GGGCCGGCGG	GTTCCGGCGGG	660
TTCGGCACCG	CCGGTGGGGT	CGGTGGGGCC	GGCGGCAATG	CCGGCTGGCT	GGGCTTCGGC	720
GGGGCCGGGG	GCATCGGCGG	AATCGGCGGT	AACGCTAACG	GGGGCGCCGG	TGGGAACGGC	780
GGCACCGGCG	GTCAGTTATG	GGGTAGCGGC	GGCGCCGGCG	TCGAAGGCGG	CGCAGCCTTA	840
AGCGTCGGCG	ACACCGGCGG	GGCCGGTGGC	GTGCGGCGCA	GCGCCGGGCT	GATCGGCACC	900
GGCGGCAACG	GCGGCAACGG	CGGCACCGGC	GCCAACGCCG	GCAGCCCCGG	AACCGGCGGC	960
GCCGGCGGGT	TGCTGCTGGG	CCAAAACGGG	CTCAACGGGT	TGCCGTAGCC	GGGCGGCACG	1020
GCATGGCTTC	CGGGCGTCAA	CCACTCGCCG	GTGATGCAGA	TCGGCTGCGG	AGCGGGCCGC	1080

[illegible]

(2) INFORMATION FOR SEQ ID NO: 5:

(D) TOPOLOGY: linear

(iv) ANTI-SENSE: NO

GGGCATCGGC	GGAATCGGCG	GTAACGCTAA	CGGGGGCGCC	GGTGGGAACG	GCGGCACCGG	60
CGGTCAAGTTA	TGGGGTAGCG	GCGGCGCCGG	CGTCGAAGGC	GGCGCAGCCT	TAAGCGTCGG	120
CGACACC						127

[illegible]